



## **Xcel Energy Recommissioning Program**

### ***Colorado Front-Range Commercial & Industrial Buildings Program***

Xcel Energy is offering its commercial and industrial customers the opportunity to make operational performance improvements in their buildings by participating in the Recommissioning Program. Eligible building owners can receive financial incentives from Xcel Energy to offset costs associated with recommissioning services and implementation.

The Recommissioning Program is designed to achieve demand and energy savings in commercial and industrial buildings in the Xcel Energy Front-Range service territory. Savings are realized through the systematic evaluation of building systems and implementation of low-cost and no-cost measures targeted to improve HVAC system operation and, in many cases, improve occupant comfort. For more detailed program information, contact the Recommissioning program administrator at (303) 440-4343 or [Recommissioning@nexant.com](mailto:Recommissioning@nexant.com)

### **Customer Eligibility**

Eligible customers must purchase retail electricity from Xcel Energy on a commercial and industrial tariff. Customers on a wholesale rate tariff who purchase electricity for resale do not qualify. In addition, the customer site must be located within one of the following eligible Front-Range counties: Adams, Alamosa, Arapahoe, Boulder, Broomfield, Chaffee, Clear Creek, Conejos, Costilla, Denver, Douglas, Gilpin, Jefferson, Lake, Larimer, Logan, Morgan, Park, Rio Grande, Saquache, Summit, Weld.

To help meet the program cost-effectiveness criteria required by the Colorado Public Utilities Commission (CPUC), program participants are required to meet the following minimum eligibility requirements:

- Existing building or facility must possess a minimum of 75,000 square feet of conditioned space and have a minimum summer peak demand of 300 kW.
- Building must have a motivated in-house operations and maintenance staff that is available to support the project.
- Building owner must express a willingness to commit funding for completing the project plan and implementing measures. The owner must be prepared to assume costs and expenses totaling a minimum of \$10,000 for agreed-upon measures that net a simple payback of one year or less after implementation incentives are applied.

Although most buildings can benefit from recommissioning, priority is given to participants with the following characteristics:

- The building is equipped with an energy management control system that has a substantial number of monitoring and control points.
- The system is free of major problems requiring costly repairs or replacements.
- Building documentation is accessible.
- The building is large (i.e. 250,000 square feet or greater).

- The building has high, normalized peak demand (W/square foot) and normalized annual energy costs (\$/square foot year).

Based on considerations like those listed above, Xcel Energy identifies applicant buildings that have the highest perceived opportunity for savings to participate in the program. Potential participants are prioritized. It is the exclusive right of Xcel Energy to select program participants.

## **Funding and Incentives**

Program funding and incentives are provided to participants in two ways:

- Incentives are provided for recommissioning services and cover 100% of costs (up to a maximum project cost established for pre-approved service providers).
- Incentives may be provided to offset the cost of implementing low-cost measures. To determine the payment amount, the overall implementation cost-effectiveness is considered. The aim of the payment is to buy-down the implementation costs to achieve a one-year simple payback for the building owner. This incentive payment is anticipated to average \$60/kW saved, with a maximum payment of \$200/kW saved. For highly cost-effective projects that have overall simple payback periods of less than one year, no implementation incentives will be paid.

## **Pre-approved Service Providers**

Qualified recommissioning service providers (RSP) have been selected through a request-for-proposal (RFP) bidding process, as required by the CPUC. Firms selected for the program were chosen based on a best-value ranking for performing recommissioning services that follow the program protocols. These pre-approved service providers contract with the program administrator to provide Recommissioning services. The program administrator assigns projects to service providers.

## **Program Process**

The program process for each recommissioning project follows the basic program phases, which are based upon industry-standardized recommissioning procedures.<sup>1</sup>

- Application Phase
- Planning Phase
- Investigation Phase
- Implementation Phase
- Verification Phase

### ***Application Phase***

The program begins with the Application Phase when applications are submitted, reviewed, and selected and projects assigned to a pre-approved RSP. Applications are completed by the building representative and submitted to Xcel Energy. Once a program application is received, Xcel Energy reviews it and evaluates if the building is a good candidate for participation. If an application is accepted for participation, the building owner is required to sign a program agreement contract with Xcel Energy. The Program Administrator (PA) selects and contracts with a pre-approved service provider to provide services. Soon after contracts are signed, a project kick-off meeting is held. Attendees include representatives from Xcel Energy, the PA, the RSP, and the building.

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<sup>1</sup> Haasl, Tudi and Terry Sharp, *A Practical Guide for Commissioning Existing Buildings*, Portland Energy Conservation, Inc. (PECI) and Oak Ridge National Laboratory (ORNL), Report No. ORNL/TM-1999/34, April 1999.

### ***Planning Phase***

After the project kick-off meeting, the RSP begins the recommissioning planning phase. This phase begins with the RSP consulting with the building facilities personnel, reviewing the building system documentation and utility bills, and completing a general site assessment. From the information gathered, the RSP develops a Recommissioning Plan that provides guidance for the remainder of the recommissioning process. This plan includes the following components:

- Site assessment form.
- Brief facility description, with emphasis on energy-consuming equipment.
- Investigation scope and general methodologies.
- Potential areas for improvement and associated electric savings estimates in kWh and peak kW.
- Work plan for primary tasks including scheduling, roles, and responsibilities.

### ***Investigation Phase***

During the investigation phase, the RSP, with assistance from building facility staff, will conduct a site assessment to develop an in-depth understanding of the building systems. Other investigation phase activities include:

- Gathering operational and functional data to assess equipment operation.
- Estimating the potential energy impacts of correcting identified deficiencies through engineering calculations.
- Developing a diagnostic and calculation plan to direct the investigation effort.
- Collecting monitored data to verify scheduling and loading and to support engineering calculations.
- Assessing the cost to correct identified opportunities and calculating the corresponding simple payback period.
- Developing a Master List of significant deficiencies and potential improvements.
- Implementing no-cost measures identified on the Master List once sufficient information is collected to estimate the measure's energy savings potential.
- Identifying a proposed implementation verification procedure (i.e., visual inspections, spot measurements, or trend logging) to be used to verify savings for each recommended measure.

After completing the investigation phase activities, the RSP completes and delivers to Xcel Energy and the building owner a report summarizing the investigation activities, findings, recommendations, and procedures for verifying implementation of recommended measures.

### ***Implementation Phase***

Completing the implementation phase of the project is the responsibility of the building representative. A project meeting is held to review the Investigation Report and the project recommendations. The bundle of measures to be implemented is agreed upon by the building owner and Xcel Energy. The incentive to be paid by Xcel Energy to the building owner to offset implementation costs is determined based on the measures' estimated payback period and the Program rules. The building owner may choose to implement the measures using in-house staff, contractors, or the RSP. The building owner submits to the PA an Implementation Plan that includes a work schedule for implementing the selected measures. Where in-house staff are not available or do not possess sufficient skills or expertise, outside help may be required. In either case, the plan must identify the facility staff member assigned to either observe or participate in each aspect of the implementation. This has important implications for the persistence of the measures' savings because facility staff on-the-job training is essentially taking place during implementation. Whether the implementation is done in-house or not, retaining the RSP through the implementation phase

is worth considering since the provider has gained intimate knowledge about the building systems and improvement requirements in the investigation phase.

After the work plan is developed and implementation completed, retesting and verification of some measures is recommended to verify that the expected results have been achieved. The testing results should be compared against equipment specifications or desired operating set points. Ultimately, the implementation of the selected measures is the responsibility of the building owner. Xcel Energy verifies that proper implementation has occurred before issuing the incentive payment.

### ***Verification Phase***

During the Verification Phase, the RSP visits the site to verify that measures have been properly installed, new control strategies are in place, repairs have been made, etc. The RSP executes the implementation verification procedures developed as part of the Investigation Report. The RSP submits the Implementation Verification Report that summarizes its findings with revised savings estimates. If through verification, it is realized that the agreed-upon measures have not been fully implemented, the implementation incentive is recalculated. Once the final incentive amount is determined, Xcel Energy pays the building owner the implementation incentive.